ALAMEDA COUNTY
CONGESTION MANAGEMENT AGENCY

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TRI-VALLEY TRIANGLE STUDY
TECHNICAL ADVISORY COMMITTEE

MEETING NOTICE

(NOTE CHANGE IN TIME)

Thursday, July 14, 2005
8:30 AM
Dublin City Offices
100 Civic Plaza
Dublin, CA 94568

Agenda

1. Introductions **8:30 AM**

2. Minutes of June 16, 2005* **Action** **8:35 AM**
It is recommended that the TAC approved the attached June 16, 2005 meeting Minutes.

3. Travel Demand Model Update **Action** **8:40 AM**
The consultants have been validating the modified CCTA/Tri-Valley model in the Triangle area. Plots and tables showing how the model is operating are expected to be sent to you early in the week of July 11th. The TAC is requested to review the results and bring comments to the TAC meeting. The consultants will compile comments at the meeting and will incorporate into the final validation process those agreed necessary to ensure that the model is performing reasonably well for purposes of the study (i.e., to be able to compare the impacts of various packages).

4. Operations Model **Action** **8:55 AM**
The TAC received notification on June 28th that the Base Case simulation model for I-580 was available on PTG's FTP site. The model was modified to incorporate the TAC's input at the June 16th meeting. In addition to the AM and PM simulations, additional views are provided of the westbound PM freeway operations and the operations at the Santa Rita and Vasco interchanges. The TAC is requested to review and comment on the simulations via email by Junly 6. At the meeting, the TAC will be asked to accept that the model is operating sufficiently for purposes of the study. Comments from some of the TAC members are attached.

5. Sensitivity Analysis Action 9:40 AM**

The results of the travel demand modeling of six specific improvements will be presented at the meeting. The consultants are seeking concurrence that the model is responding as expected so that the results can be used to develop alternative packages.

Attachments:

Comments on Sensitivity Analysis from Livermore
SensitivityAnalyses_rev2 JKK 2005 07 05b
SensitivityAnalyses_rev2
Memo on Sensitivity Analysis Comments

6. Preliminary Packaging of Alternatives Action 10:15 AM

Based on the results of the sensitivity analysis in Agenda Item 5, the TAC is requested to develop the preliminary package of alternatives. It is recognized that additional sensitivity analyses may need to be completed prior to finalizing the packages. However, the TAC is requested to begin this work today.

7. Next Meeting: July 26 at 1:30 PM in Dublin

8. Adjourn

* Materials attached
** Materials to be distributed at meeting

PARSONS
100 Park Center Plaza, Suite 450 • San Jose, California 95113
(408) 280-6600 • Fax (408) 280-7533

Date: July 5, 2005 645176/224.01

Project: Tri-Valley Triangle Study

Subject: Triangle Technical Advisory Committee Meeting Minutes

To: All who attended meeting, see attached sign-in sheet

From: Gui Shearin Parsons

Enclosed are the minutes for the Triangle TAC meeting held on June 16, 2005. If you have any questions, comments, or changes to the minutes, please contact me before the next TAC meeting on July 14, 2005.

PARSONS RECORD OF MINUTES

645176/224.01

PROJECT: Tri-Valley Triangle Study

SUBJECT: Triangle TAC Meeting

DATE: June 16, 2005; 9:30 AM

LOCATION: Dublin City Hall, Regional Room
100 Civic Plaza
Dublin CA 94568

ATTENDEES: See attached sign-in sheet, Agenda, and attachments

MINUTES BY: Parsons

The purpose of the meeting was to discuss the study performance measures (including weighting and recommendations to the PAC) and base case definition.

The following is a summary of the meeting. Action items are shown in **bold** and critical path items are in ***bold and italicized***. Action items subsequently completed are in *italics.*

DISCUSSION	ACTION
Welcome and Introductions: Ben Strumwasser of Circle Point started off the meeting and everyone introduced themselves to the group.	
Minutes of May 17, 2005 Meeting: The minutes were accepted provisionally unless the City of Livermore has changes.	**City of Livermore to review minutes.**
Travel Demand Modeling: Kym Sterner of Dowling asked for reaction to the validation assumptions by Tuesday the 21st on the calibration volumes and networks. Jeff Knowles of Pleasanton asked what was being assumed for the I-680 HOV lanes. Jean Hart of ACCMA said that the lanes (between Route 84 and Alcosta Boulevard) should not be in the future base because they were projects to be sequenced. Kym said that she was proceeding with validation. Jean Hart explained that the future base was the general plan except for the PAC recommended changes in Pleasanton (removal of Stoneridge Extension and the W. Las Positas Interchange). She said that it would be presented with an "as of" date" on it and a statement that it was for the purposes of the Triangle study. Ray Kuzbari of Dublin said Dublin Boulevard would be six lanes to city limits and four lanes the last 4,000 feet where it would connect with North Canyons Parkway.	

Ramp metering rates were reported as the following: eastbound rates in the PM are not to exceed 600 vph. Westbound I-580 would not exceed 900 vph in the AM. Isabel Avenue would be metered at 800 vph in the PM. The I-680 connector would be metered at 900 vehicles per hour per lane (vphpl). (The other rates are <u>total</u> hourly volumes for the ramps.) In response to a question on metering of I-680, David Seriani of Caltrans said that meters would be installed, but that use of them would depend on the cities. Effectively there would be no restrictions since the metering would be at demand. Truck percentage assumptions, provided via email by Dowling Associates, based on Caltrans and survey data are about 12.5 percent on the Altamont Pass and 10.6 percent near Greenville Road for 2003. The commuter survey also indicated just over 10 percent trucks in the morning peak period. Kym noted that evening peak period truck percentages tend to be lower in the San Joaquin Valley and asked if there were any available data to support a different percent in the PM and if the percentages should be the same in the future. Phil Cox of Caltrans said that he could look at the trend in the past to see if it suggests something—he will contact her (action by Tuesday). Jean suggested looking at MTC's freight study, which looked at this corridor and what the future trends might be; it would optimistic for the freight point of view. Ray provided Kym with a copy of relevant pages after the meeting. Jeff was concerned that the percentages stay at 10 percent or above. Kym also asked for truck trips at the quarries—the model version looks low. Altamont Pass trip distribution will be based on the Altamont Pass Commuter Survey. This survey indicates that 98 percent of the AM peak-hour trips were work related. Changes in travel patterns at the Altamont Pass will be based on growth rate from the statewide model. Jeff said that the City's data indicated that 19 percent of their employees lived in Pleasanton. Kym said that according to the Census, about 30 percent of Pleasanton residents worked in Pleasanton (about 23 percent of employees). She asked for survey data by Tuesday in support of the Pleasanton numbers. Jean was concerned that any data provided to Kym be scientifically valid and objective. Lastly, Kym will be validating the model to screenline and hot spot locations as well as specific travel routes based on many of the counts provided in the validation database. If TAC members have specific locations that need to be specifically considered as part of the validation process, e.g., an at-capacity intersection or cut-through route, she needs to know by the 23rd.	***Data on truck percents or volumes for freeway, truck volumes for quarries, and percent distribution of the origins of city employees should be sent to Kym Sterner by 6/21/05.*** ***Kym Sterner will distribute screen line locations on 6/20/05.*** ***Comments on screen line and hot spot locations as well as identification of specific routes of concern are due to Kym by 6/23/05.***
<u>Operations Model</u>: In response to the existing I-580 simulation that has been posted on the Parsons' ftp site, Jeff and Ray want to see Vasco, Santa Rita, and Hacienda interchanges addressed in the existing pre-ramp metering condition, Kym indicated that it does not seem warranted to spend a lot of time on calibrating to a condition that does not even exist today. To include these interchanges, Ravi Puttagunta of Parsons needs signal times and turning movements. Jeff will email Santa Rita and Hacienda data to Ravi and Ravi will post the results within a week. Vasco Road data are included in the	***Jeff Knowles will provide intersection data for the Hacienda and Santa Rita interchanges.*** ***Ravi Puttagunta will provide pre-ramp metering simulations***

validation data set from Dowling. With respect to which hour to simulate, there was general agreement that simulating two hours and picking the second hour would be acceptable. For the baseline condition on I-580, Ravi will use actual hourly volumes for the two hours, i.e., 4-6 PM and 7-9 AM. Then for the future Ravi will use the peak hour twice, perhaps, or two hours of the four-hour peak period.	***of I-580.***
Next Steps/Next Meeting – July 14, 8:30 am, Location: Dublin City Hall. The next meeting will begin at 8:30 AM to allow for a longer meeting.	***All – Review minutes and provide any comments/changes by next meeting.***

Comments on Operations Model:

Pleasanton

1) The existing PM file appears to have no trucks in the #1 and #2 lanes.
2) The eastbound PM, Santa Rita and Vasco files show trucks using the #1 and #2 eastbound lanes of the freeway. No trucks use these lanes, and concentrating them in the #4 lane, with a few in the #3 lane is critical to simulating existing and future conditions.
3) Does the model, or can the model, have reduced truck speeds on the Altamont Grade as the simulation seems to show no slowing east of Greenville Road?
4) How does the eastbound simulation mainline volume at Vasco compare to true counts? Is the simulation trapping or constraining too much traffic at the Santa Rita bottleneck such that too little gets through and thus congestion east of the bottleneck is too light in the simulation? How many vehicles and at what points were they denied entry into the simulation due to restricted capacity as happens in my Synchro/SimTraffic simulations along this corridor?
5) Including the interchange intersections, loops and weaves appears to be critical to creating a realistic simulation model.

Livermore:

Comments on new set of CORSIM files (dated 06/27/05):

We did not see any improvement in the new set of CORSIM files for the City of Livermore area, so the previous version comments are as stated below. The only improvement we saw was PM EB Vasco off ramp which has a queue building up, but the queue is not long enough to spill onto the freeway.

Ravi from Parson mentioned that speeds are not realistic on the visual and that is very misleading to a layperson. If we were to demonstrate this CORSIM output to public, they would not accept the speeds at which cars are traveling. Is there a way to show the actual speeds in CORSIM?

The AM WB I-580 should be bumper to bumper in Livermore, and heavily congested near I-680 and it is not.

Comments (dated 05/06/05) on CORSIM files for I-580 between I-680 and Greenville Road

<u>General Comments (AM& PM both EB & WB directions)</u>

- Congestion levels seem low, particularly AM westbound all over and PM eastbound in Livermore and up the Altamont Pass.
- For both periods ramps show as if they are metered, and they are not in reality i.e. there should be large numbers of platoons getting on and off to I-580, especially at signalized ramps.

AM Peak

- WB I-580 does not seem to have enough congestion near I-680. Truck volumes seem low in both directions.
- Fallon off-ramps volume seems too low.
- Level of congestion on I-580 within the City of Livermore seems low.
- First St. ramps being signalized, they have large platoons of traffic getting on & off.
- Vasco Road EB off-ramp should have a long queue backing up on freeway. Vasco Road WB on-ramp should have a long queue backing onto Vasco Road.

PM Peak

- WB I-580 near I-680 is not congested enough.
- I-580 EB, east of Livermore Avenue speeds seem higher than field conditions.
- EB Vasco Road off-ramp should show a long queue *(the queue is there in a separate Vasco Road interchange corsim file, but still it is not long enough).*
- First Street, Vasco Road, and Greenvile Road on-ramp volumes seem low.

Comments on Sensitivity Analysis from Livermore:

1. Is I-680 NB HOV from SR 237 to SR 84 going to be included in one of the packages/alternatives?

2. Isn't the alt.6 of widening SR 84 from 2 to 4 lanes between Pigeon Pass to Stanley Blvd. and six lanes from Stanley to I-580 going to be in the base case future scenario? This is a funded project, why are we including it as a package? Parsons'/Dowling's memo dated June 21,2005 already includes widening of SR 84 in the base case, although lanes shown as 6 lanes is incorrect.

July 14, 2005
Agenda Item 5

Memorandum

Date: July 7, 2005

To: Triangle TAC

From: Jean Hart

Subject: Sensitivity Analyses

Comments on the approach to the sensitivity analyses have been received from staff from Pleasanton and Livermore. It is necessary to take a step back to review the intent and commitment of performing this work.

The intent of doing the sensitivity analyses is to provide information about the effects of a particular improvement on the regional and somewhat limited local network. The impact on the local network is limited to increase/decrease in diversion. The results of these analyses will be used to develop packages of alternatives to be further analyzed in the operational model. Dowling indicated that between 6-8 model runs could be completed within the existing budget and schedule. It was never intended that several improvements would be modeled together, in essence pre-packaging of alternatives.

The consultants identified the following "ground rules" for completing the sensitivity runs: minor network changes would be made using the best available future base trip tables(based on the validation to date); and the trip tables would be constant between alternatives and would not reflect variations by alternative due to changes in queuing (no feedback to CORSIM), peak hour spreading, or mode split. It was suggested that these runs would provide a "good bang for the buck"; that is, limited work with minimal network coding, simple reassignment and post-processing resulting in less than perfect results yet providing some good information about where traffic pressures are relieved and or exacerbated.

There are two issues regarding additional runs done as part of the sensitivity analyses: cost and impact on the study schedule. Staff from Pleasanton has indicated that they would be willing to cover some of the costs for additional runs; however the consultants have indicated that additional time will be needed to complete the work (i.e., they cannot complete more than was already was committed to by the July 14th TAC meeting). CMA staff is concerned with any additional impact to the schedule for completing the study. Should additional runs be requested, the TAC is requested to reach agreement on the proposed improvements and responsibility for additional costs for the work to be

performed. Given time constraints, it is requested that the TAC prioritize the improvements to be analyzed.

It is CMA staff's belief as indicated earlier in my email to you that the model results for a limited set of projects coupled with your professional knowledge and judgment are sufficient to develop the six alternatives for the first set of CORSIM model runs. It is anticipated that the results will inform the development of perhaps two more alternatives that will be run through the operations model.

Please see the response below for additional improvements to be tested with the forecast model.

1. NB I-680 from Route 84 to Route 237: will be included. This was an oversight and should have been included in the original set of improvements.
2. NB I-680 connector to I-580 HOV: the consultants for the EB I-580 HOV lane have been requested to look at this connection as a part of the EB project. If it is operationally feasible and funding permits, we are hoping to include this connection in the EB HOV lane. We need to discuss this further if the TAC does not want this handled in this manner. However, I would ask that you wait for the meeting on July 26th when I return to have this discussion.
3. SR 84: The Future Base Case assumes 2 lanes from I-680 to Pigeon Pass, 4 lanes from Pigeon Pass to Stanley and 6 lanes from Stanley to Kitty Hawk. This is per ACTIA. The alternative to be tested is 4 lanes from I-680 to Pigeon Pass.
4. Add Isabel 6-lane alignment north of Kitty Hawk and I-580 interchange. At this point, we are not testing alternative combinations but single projects. It seems reasonable that the connection would be beneficial without having to go through the model process.
5. Adding Truck Climbing Lane on I-580 east of Greenville: The extension of the EB HOV lane is being tested, the practical addition of the HOV lane will cause the outside lane to act as a truck climbing lane so an additional model run is not needed.
6. Rt 84 connector at Isabel to Vasco Road: This would be an added improvement
7. EB Rt 84 direct connector from Route 84 (Isabel to Vasco) between the two interchanges via a new EB mixed flow lane on I-580 between the two interchanges: clarification is needed. Is this an auxiliary lane or in addition to an auxiliary lane?
8. Auxiliary Lane: a map will be provided at the meeting showing existing and programmed auxiliary lanes.

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Dowling Associates, Inc.

Date: REV. June 28, 2005
P05016

Memorandum

To: Tri-Valley Triangle Study TAC

From: Kym Sterner - Dowling Associates (ksterner@dowlinginc.com)

Subject: Sensitivity Analyses – Description of Test Runs

Network Assumptions

The following modifications will be made to the future base network for travel demand model sensitivity analyses purposes. These model runs will use the future base AM and PM peak hour trip tables without adjustments to peak hour spreading or feedback to/from the operations model.

1) Addition of an I-580 westbound HOV lane from Greenville Road to I-680.
2) Addition of an I-580 westbound to I-680 southbound HOV direct connector.
3) Addition of an I-580 westbound to I-680 southbound mixed flow direct connector.
4) Addition of an I-680 northbound to I-580 eastbound HOV direct connector
5) Addition of an I-680 northbound HOV lane from SR 84 to Alcosta Boulevard.
6) Widening of SR 84 from 2 lanes to 4 lanes from Pigeon Pass to Stanley Boulevard and to six lanes from Stanley to I-580. For the future base case, SR 84 will remain at two lanes from I-680 through Pigeon Pass.
7) Addition of an I-580 eastbound HOV lane from Greenville Road to N. Flynn Road.

Model Results

Model outputs will include "red/green" plots showing increases and decreases in traffic demand volumes and tables summarizing the select study measures of effectiveness by jurisdiction and facility type:

- Person hours traveled (PHT)
- Congested hours of travel
- Average free flow and congested speeds
- Average trip length frequencies (minutes)

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Date: REV. June 28, 2005
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1) Addition of an I-580 westbound HOV lane from Greenville Road to I-680.
2) Addition of an I-580 westbound to I-680 southbound HOV direct connector.
3) Addition of an I-580 westbound to I-680 southbound mixed flow direct connector.
4) Addition of an I-680 northbound to I-580 eastbound HOV direct connector (direct connector to what? Does this include extending the EB HOV lane west to 680 thus closing all HOV gaps?)
5) Addition of an I-680 northbound HOV lane from SR 84 to Alcosta Boulevard.
6) What about the proposed NB 680 HOV lane south of RT 84?
7) Widening of SR 84 from 2 lanes to 4 lanes from Pigeon Pass to Stanley Boulevard and to six lanes from Stanley to Kitty Hawk (one project).
8) Separate project: new Isabel 6-lane alignment north of Kitty Hawk and I-580 interchange. (For runs 7 and 8, SR 84 will remain at two lanes from I-680 through Pigeon Pass.)
9) Combined widening of RT 84 from 2 to 4 lanes from 680 to Pigeon Pass, plus run 7 and 8 improvements.
10) Addition of an I-580 eastbound HOV lane from Greenville Road to N. Flynn Road.
11) Addition of a truck climbing lane from Greenville to just east of the Altamont Pass.
12) Route 84 direct connect from Route 84 (Isabel s/o 580) to Route 84 (Vasco n/o 580) through north Livermore as a 2-lane 55 MPH rural road.

13) Eastbound Route 84 direct connect from Route 84 (Isabel s/o 580) to Route 84 (Vasco n/o 580) via new eastbound mixed flow lane on 580 between the two interchanges.

14) What about the aux lane scenarios described in the original Triangle Study scope?

Model Results

Model outputs will include "red/green" plots showing increases and decreases in traffic demand volumes and tables summarizing the select study measures of effectiveness by jurisdiction and facility type:

- Person hours traveled (PHT)
- Congested hours of travel
- Average free flow and congested speeds
- Average trip length frequencies (minutes)